

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

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Ex parte BART R. JONES, EUGENE J. NYKYFORIAK,  
DAVID H. BANK, RAVI RAMANATHAN  
and DAVID W. RECKTENWALD

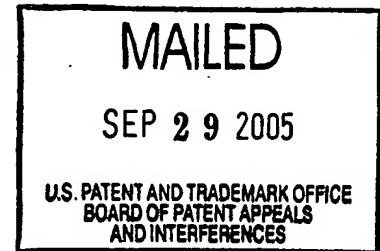
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Appeal No. 2005-2180  
Application No. 10/051,417

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ON BRIEF

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Before PAK, WARREN and JEFFREY T. SMITH, Administrative Patent Judges.  
JEFFREY T. SMITH, Administrative Patent Judge.

**DECISION ON APPEAL**

This is a decision on appeal from the examiner's final rejection of claims 1 to 7, 11 to 14, 18 to 23 and 26 to 32, all of the pending claims. (Brief, p. 2). We have jurisdiction under 35 U.S.C. § 134.

### BACKGROUND

The present invention relates to a valve cover assembly comprising a valve cover having a mating surface having a continuous bead of an adhesive disposed on the perimeter of the mating surface wherein the adhesive has sufficient adhesive strength to hold the valve cover in place. Representative claims 1 and 18 appear below:

1. 1. A valve cover assembly comprising a valve cover having a mating surface adapted to be attached to a cylinder head of an internal combustion engine having a continuous bead of an adhesive disposed on the perimeter of the mating surface of the valve cover wherein the adhesive has sufficient adhesive strength to hold the valve cover in place during normal operating conditions.
18. A method for bonding a valve cover to a cylinder head comprising
  - a) applying to the valve cover or the cylinder head, wherein the valve cover has a mating surface adapted to be mated with a mating surface of a cylinder head, a continuous bead or film of adhesive along the entire mating surface of the valve cover or the cylinder head wherein the adhesive has sufficient cohesive strength to hold the valve cover in place during normal operating conditions;
  - b) contacting the mating surface of the valve cover with the mating surface of the cylinder head such the continuous bead or film of adhesive is disposed between the mating surfaces of the valve cover and the cylinder head;
  - c) curing the adhesive to form a permanent bond between the mating surfaces of the valve cover and the cylinder head wherein the adhesive forms a seal between the valve cover and the cylinder head.

The Examiner relies on the following references in rejecting the appealed claims:

Mochizuki et al. (Mochizuki)	4,985,523	Jan. 15, 1991
Santella	5,375,569	Dec. 27, 1994

Claims 1-3, 11, 18-21, 26-32 stand rejected under 35 U.S.C. §103(a), as obvious over Mochizuki . Claims 4-5, 7, 12-14 and 22-23 are rejected under 35 U.S.C. §103(a) as obvious over the combined teachings of Mochizuki and Santella. Claim 6 is rejected under 35 U.S.C. §103(a) as obvious over the combined teachings of Mochizuki and Santella, and further in view of design choice. (Answer, pp. 3-5). We affirm the rejections.

Rather than reiterate the conflicting viewpoints advanced by the Examiner and the Appellants regarding the above-noted rejections, we make reference to the Answer (mailed March 05, 2004) for the Examiner's reasoning in support of the rejection, and to the Brief (filed February 02, 2004) and the Reply Brief (filed May 05, 2004) for the Appellants' arguments there against.

We initially note that Appellants assert that for purposes of appeal the claims are grouped into the following groups; Group I, claims 1, 11 and 18; Group II, claims 2 and 32; Group III, claims 26, 28 and 30 and Group IV, claims 22 and 23. (Brief, p. 5). We will consider the groups of claims separately to the extent that these groups of claims have been argued separately in the brief.

OPINION

We look to the specification for a discussion of the claim requirement "wherein the adhesive has sufficient cohesive strength to hold the valve cover in place during normal operating conditions." During patent prosecution, claims are given their broadest reasonable interpretation consistent with the specification, and the claim language is to be read in view of the specification as it would be interpreted by one of ordinary skill in the art. *In re Morris*, 127 F.3d 1048, 1053-54, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); *In re Sneed*, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983); *In re Okuzawa*, 537 F.2d 545, 548, 190 USPQ 464, 466 (CCPA 1976). This review of the specification does not reveal the specific "normal operating conditions" for an internal combustion engine. We note that Appellants have not directed us to specific portions of the present record which disclose or describe normal operating conditions for an internal combustion engine. Thus, in resolving the issues of the present appeal, we determine that the phrase "normal operating conditions" applies to any operating condition of internal combustion engines of varying size from small to large.

Appellants are free to recite features of an apparatus either structurally or functionally. See *In re Schreiber*, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed. Cir. 1997). *In re Swinehart*, 439 F.2d 210, 212, 169 USPQ 226, 228 (CCPA 1971). However, when describing the invention the inventor must describe it

specifically to avoid the prior art. Appellants argue that Mochizuki fails to teach or suggest the use of a structural adhesive to bond a valve cover to a cylinder head.

Specifically, Appellants state:

The references [Mochizuki and Santella] either singly or in combination fail to teach or suggest the use of a structural adhesive to bond a valve cover to a cylinder head; the use of an adhesive wherein the adhesive has sufficient adhesive strength to hold the valve cover in place (Claims 1, 11 and 18); that the valve cover does not have bolt holes which have a primary function of holding of the valve cover to the cylinder head (Claims 2 and 32); the adhesive used demonstrates a cohesive strength of 250 psi or greater when measured in lap shear modes according to ASTM D-3165-91 (Claims 26, 28 and 30); and (Claims 22 and 23), the presence of integral fastening means present to hold the valve cover in place until the adhesive cures.

(Brief, p. 5).

The Examiner found that Mochizuki discloses multiple adhesive sealing compositions which are suitable for application to an engine head and head cover (column 1, line 18) and a joint between an engine head and a head cover (column 7, line 28). Mochizuki discloses the adhesive provides a seal with excellent heat resistance and oil resistance for use in internal combustion engines (column 7, lines 9-26). Mochizuki (column 7, lines 29-35) discloses the adhesive sealant has a tensile strengths up to 40 kgf/cm<sup>2</sup> which the Examiner has determined to be approximately 568 psi. (Answer, p. 3). The Examiner acknowledges that Mochizuki fails to recite the functional language "wherein the adhesive has sufficient cohesive strength to hold the valve cover in place during normal operating conditions." (Answer, p. 5).

However, the Examiner has reason to believe that the adhesive of Mochizuki would hold during "normal operating conditions" since Mochizuki discloses that its adhesive is useful for an engine head and a valve cover and has a holding strength up to 568 psi. (Answer, p. 5). Appellants have not directed us to evidence that indicates that the Mochizuki adhesive would not function as claimed. When the USPTO shows sound basis for believing that the products of the applicant and the prior art are the same or slightly different, the applicant has the burden of showing that they are not. See *In re King*, 801 F.2d 1324, 1327, 231 USPQ 136, 138 (Fed. Cir. 1986); *In re Ludtke*, 441 F.2d 660, 664, 169 USPQ 563, 566 (CCPA 1971).

Appellants argue "Mochizuki discloses anaerobically curing adhesive compositions; see col. 1, lines 64 to col. 2, line 49. The adhesive is designed to seal joints in automobile engines, see col. 1, lines 16-20. Note this passage indicates that the adhesive can be used to seal head covers to engine heads. The reference does not disclose the features recited hereinbefore." (Brief, p. 6).

These arguments are not persuasive. As recognized above by Appellants, Mochizuki discloses that the adhesive can be used to seal head covers to engine heads. Appellants have not adequately explained why this disclosure fails to render the subject matter of claim 1 unpatentable. Appellants have not directed us to evidence that the adhesive strength disclosed by Mochizuki is not suitable to hold a valve cover in place during normal operating conditions.

Appellants argue, Brief page 7, that Japanese Patent 61-218754 and Frohwerk et al., U.S. Patent 5,957,100, describe a head cover secured to an engine head using nuts and bolts. Appellants have also cited six additional references in the Reply Brief for similar teachings. These arguments are noted. However, these references do not necessarily indicate that the adhesive disclosed by Mochizuki can only be used with nuts and bolts as a fastening means for a valve cover and engine head as argued by Appellants. We again reiterate that Appellants have not directed us to evidence that the adhesive of Mochizuki does not have sufficient strength to seal a head cover to an engine head as disclosed in the reference. Moreover, the subject matter of claim 1, by virtue of using “comprising,” does not preclude the use of bolts in the valve cover assembly together with an adhesive.

Appellants, Brief page 8, argue that “Mochizuki demonstrates that the adhesives disclosed would not be suitable for holding a valve cover in place under normal operating conditions.” Appellants have not identified the adhesive strength required for normal operating conditions. The subject matter of claim 1 does not preclude the use of nuts and bolts to aid in the holding of a valve cover in place under normal operating conditions. Further, Appellants arguments focus on the sample with the lowest tensile strength. Appellants have failed to make similar comments regarding the higher tensile strength adhesives disclosed by Mochizuki.

Appellants argue "Mochizuki discloses that low adhesive strength is desirable so that the sealing material can easily be removed from the cylinder head or valve cover. See col. 4, lines 5-6 and col. 4, lines 54-63." (Brief, p. 8). This argument is not persuasive. Appellants' argument fails to consider the disclosure by Mochizuki that applies to the use of adhesives on parts where high strength is required. (Col. 4, ll. 57-60).

Appellants recognize that Mochizuki discloses how to make higher strength adhesives, but argue that Mochizuki provides no motivation to do so. (Brief, p. 8). Appellants' argument is not well taken since a reference is available for all that it teaches, not just the preferred embodiments, and a teaching of the preferred embodiment is not a "teaching away" from the unpreferred embodiment. *In re Burckel*, 592 F.2d 1175, 1179, 201 USPQ 67, 70 (CCPA 1979); *In re Lamberti*, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976); and *In re Mills*, 470 F.2d 649, 651, 176 USPQ 196, 198 (CCPA 1972).

Regarding Group II, we select claim 2 as representative. Appellants argue "[t]he fact that at the time of the invention, adhesives existed which had appropriate adhesive strength to function in this manner is irrelevant as no one had imagined using an adhesive in such a manner, and it is incumbent for the Final Rejection to provide some motivation in the art which clearly suggests to one skilled in the art that



such an adhesive be used to bond and hold a valve cover on an engine cylinder head.” (Brief, p. 9).

Appellants argument is not persuasive. As stated above, Mochizuki discloses adhesives suitable for bonding and holding a valve cover on an engine cylinder head. Further, as indicated above by the Appellants, persons of ordinary skill in the art would have known that adhesives exist which have the required adhesive strength properties to replace bolts. Persons of ordinary skill in the art viewing the Mochizuki would have recognized that the disclosed adhesives could have been used in for the seal between the head cover and engine head. Those skilled in the art would have recognized the appropriate pressure requirements of an engine operating under normal conditions and select the an adhesive disclosed by Mochizuki to be suitable for that purpose. Further, contrary to Appellants' argument, the subject matter of claim 2 does not exclude the presence of bolts used to hold the valve cover in place.<sup>1</sup> Here again, we recognize that Appellants have not directed us to evidence that shows the adhesive of Mochizuki is not suitable for the stated purpose.

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<sup>1</sup> The claim language does not prevent the valve cover from having a nut that would receive a bolt.

Regarding the claims of Group III, we select claim 26 as representative. Claim 26 provides that the adhesive have a cohesive strength above 250 psi when measured according to the stated ASTM D3165-91 4 standard. The Examiner has determined that Mochizuki discloses an adhesive sealant having a tensile strength of approximately 568 psi. Mochizuki does not indicate a particular ASTM standard was used in this determination. The USPTO does not have facilities to perform test. When the Examiner provides a reference which is reasonably expected to produce the claimed requirements the burden is shifted to the Appellants to perform the requisite testing to demonstrate the cited reference does not possess the claimed property. See *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433-34 (CCPA 1977). Appellants have offered no comparison data which satisfies this burden.

The Examiner rejected claims 4-5, 7, 12-14 and 22-23 under 35 U.S.C. §103(a) as obvious over the combined teachings of Mochizuki and Santella. The Examiner also rejected the subject matter of claim 6 over the combined teachings of Mochizuki and Santella, and further in view of design choice. (Answer, pp. 4-6). We select claims 4 and 6 as representative.

Claim 4 specified that the valve cover is fabricated from a plastic material. The Examiner relies on the Santella for disclosing the suitability of forming combustion engine parts from thermoplastic materials. (Answer, p. 4). With regard to claim 6, the Examiner asserts that the specifically stated polymer composition would have

been encompassed by the teaching of Santella and that Appellants have not exhibited unexpected results for the stated composition. (Answer, p. 5). The Appellants have not specifically rebutted the Examiner's determinations. Thus, for the reasons stated above and in the Answer we affirm the rejection of these claims.

Regarding Group IV we select claim 22 as representative. Santella discloses the presence of securing flange (20) which aids in holding the valve cover in place. Thus, use of such fastening means would have been obvious to a person of ordinary skill in the art.

Appellants arguments present in the Reply Brief have been noted. Appellants have not indicated in the Reply Brief that the Examiner has raised new issues in the Answer. The issues raised by Appellants are substantially the same as have been raised in the principle brief and addressed above.


### CONCLUSION

For the foregoing reasons and those set forth in the Answer, giving due weight to Appellants' arguments, we determine that the preponderance of evidence weighs in favor of the Examiner's rejections. Accordingly, the Examiner's rejections under 35 U.S.C. § 103(a) are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv)(effective Sep. 13, 2004; 69 Fed. Reg. 49960 (Aug. 12, 2004); 1286 Off. Gaz. Pat. Office 21 (Sep. 7, 2004)).

**Affirmed**

  
CHUNG K. PAK  
Administrative Patent Judge

  
CHARLES F. WARREN  
Administrative Patent Judge

  
JEFFREY T. SMITH  
Administrative Patent Judge

**BOARD OF PATENT  
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